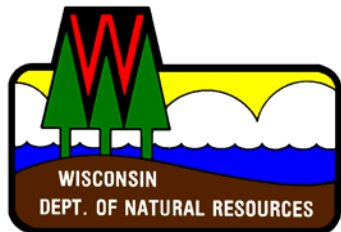


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# **Public Information Meeting**

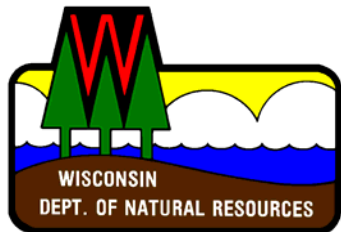
## **Rule Development for a NO<sub>x</sub> RACT Program Reasonably Available Control Technology**



# Presentation Outline

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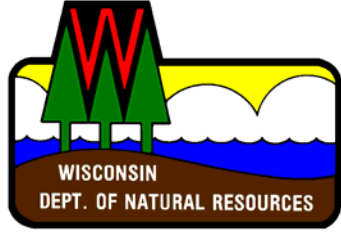
1. Background Information
2. County Designations and Affected Sources
3. Proposed Rule Framework
4. Proposed RACT Requirements
5. Extension of the Attainment Date
6. Specific Issues for Comment
7. Next Steps



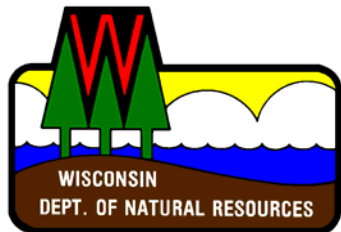
## General Areas for Comment

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- ◆ Information and data used in pertinent evaluations.
- ◆ Proposed rule framework
- ◆ Proposed RACT requirements
- ◆ Potential extension of the attainment date
- ◆ Interaction between RACT and RACM



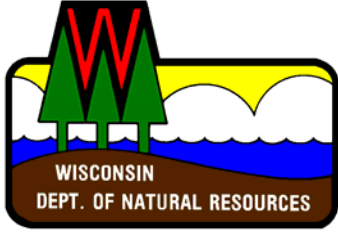
# *1. Background Information*



# CAA Regulatory Requirement

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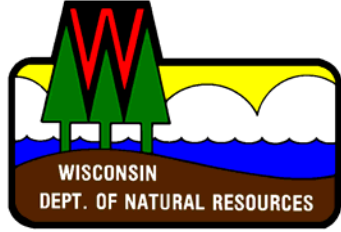
- ◆ 1990 Clean Air Act section 172(c)(1)
  - First version with NO<sub>x</sub> RACT requirement.
- ◆ Reasonably available control measures (RACM) for VOC and NO<sub>x</sub> as expeditiously as practicable with, at a minimum, RACT for major sources in ozone non-attainment areas.
- ◆ Due to EPA: September, 2006
- ◆ Compliance deadline: Ozone Season 2009



## Basic premise and context

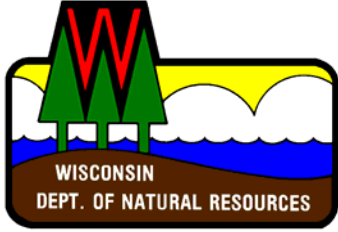
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- ◆ To meet basic CAA and State requirements
- ◆ Conduct analysis of RACT specifically for Wisconsin sources.
- ◆ NO<sub>x</sub> RACT program alone  $\neq$  O<sub>3</sub> attainment.
- ◆ Develop RACM for attainment as second step in 2007.  
(deeper cuts? more sources? broader region? ).
- ◆ CAA - Pursue NO<sub>x</sub> reductions as “expeditiously as practicable” in demonstrating attainment.



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## 2. *8-Hour Designations & Affected Sources*



# 8-Hour Designations & Geography

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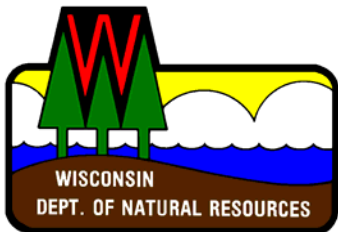
## ◆ “Moderate” designation

- Kenosha, Racine, Milwaukee, Waukesha, Washington, Ozaukee, and Sheboygan.
- RACT is required by 2009 with current designation.

## ◆ “Basic” designation

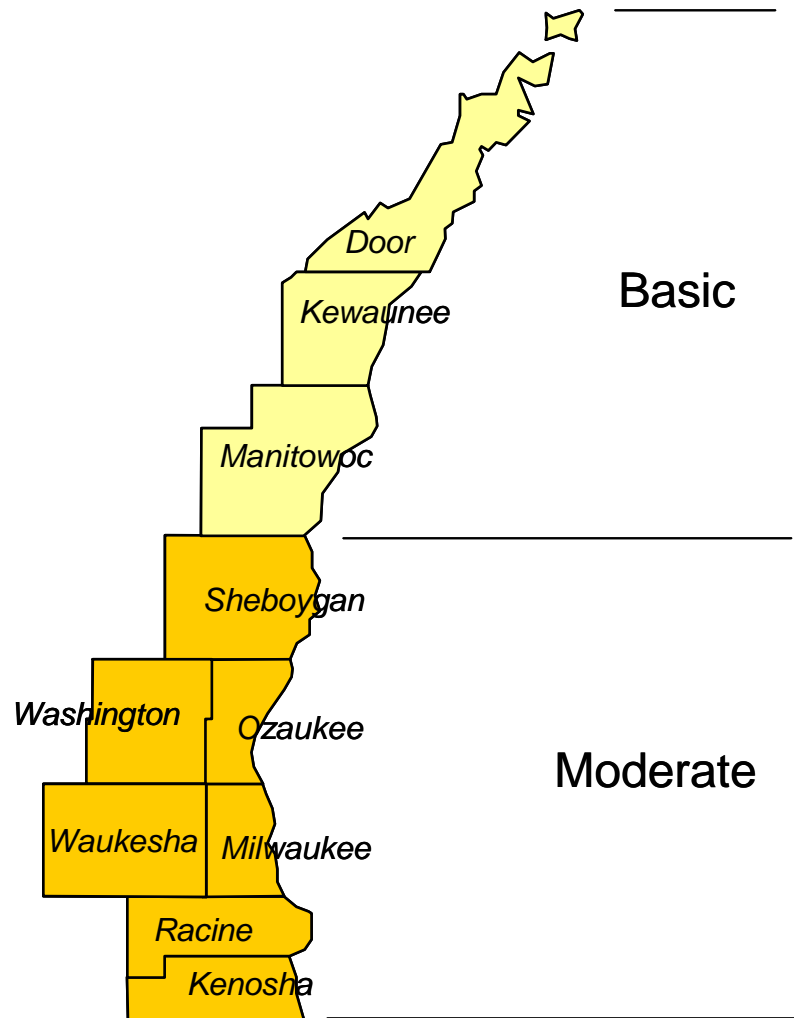
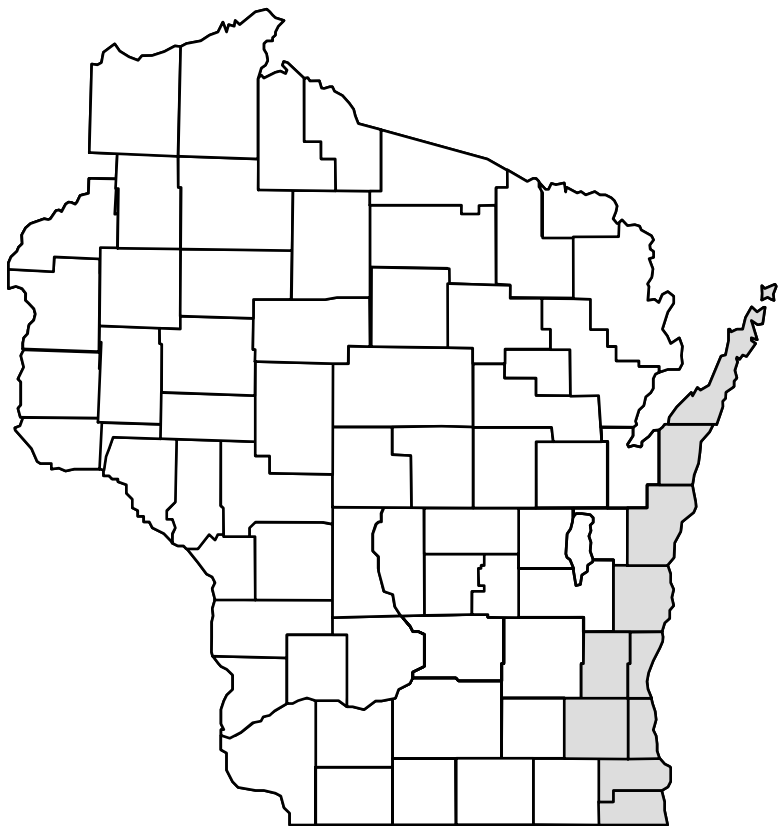
- Manitowoc, Kewaunee, and Door.
- RACT only IF an extension is requested to the attainment date beyond 2009.

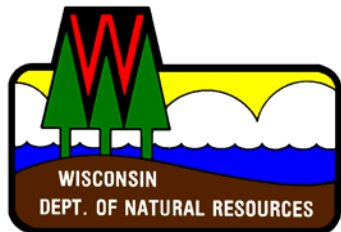




# Geography – 8 hour designations

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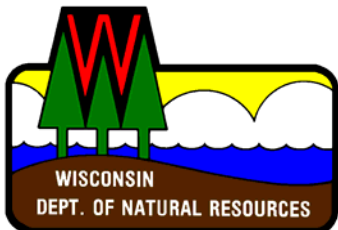




## Who are affected sources?

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- ◆ Major Source – Unit's potential to emit.
  - ◆ “Moderate” = 100 Tons per Year
  - ◆ “Basic” = 100 Tons per Year
- 
- ◆ Wisconsin = combustion sources
  - ◆ Initial screening analysis: based on air emission inventory information (emissions, capacity, fuels) and standard emission rates.

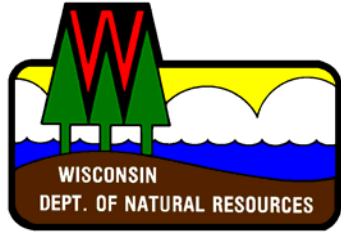


# Potentially affected sources

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- ◆ Initial screening analysis identifying potential Major Sources and their 2002 actual NO<sub>x</sub> emissions by source category.

Source Category	Moderate Area		Basic Area	
	No. of Units	Annual NO <sub>x</sub> (tons)	No. of Units	Annual NO <sub>x</sub> (tons)
EGU Coal Boilers	13	40,050	4	850
ICI Boilers	16	420	2	40
EGU Turbines	18	152	1	6
Lime Kilns			2	145
Asphalt Plants	28	110	1	8
Furnaces	23	210	2	10
Process Heating	5	130		
Reciprocating Engines	20	900	2	24
<b>Total</b>	<b>123</b>	<b>41,972</b>	<b>14</b>	<b>1,082</b>



### *3. Proposed Rule Framework*



# Rule framework

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## ◆ RACT Requirement

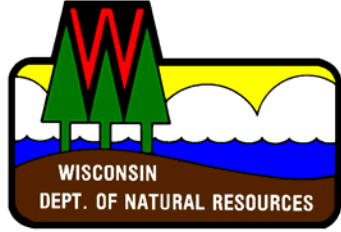
- Unit-by-unit
- Emission limit (annual and seasonal, 30 day rolling avg.)
- Combustion monitoring (CO & O<sub>2</sub>)

## ◆ NO<sub>x</sub> Monitoring and Compliance

- EGUs = Total mass emissions (most stringent – Part 75 cems)
- Non-EGUs = Emission rate (less stringent – Part 60 cems)

## ◆ Trading Provision (same as BART)

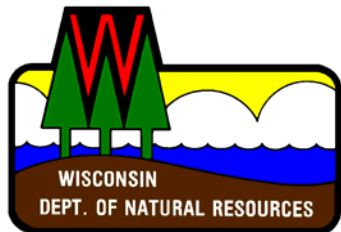
- Facility averaging through adopting a mass cap for all similar sources (e.g. boilers).
- Total mass emissions (most stringent – Part 75 cems)



## Potential EGU option

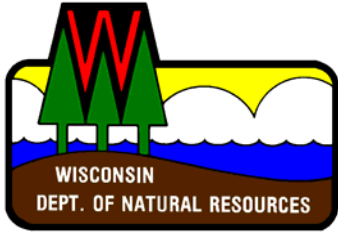
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1. Compliance with the proposed RACT rule.
2. CAIR Option 2 - Potential integration of RACT requirement under the CAIR program.



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## *4. Proposed RACT Requirements*

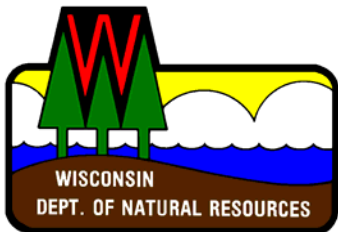


# Development of RACT requirement

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- ◆ CAA def. – Available and Cost-effective
- ◆ “Available” – EPA references, sector installations, equipment manufacturers, other state NO<sub>x</sub> rules, etc..
- ◆ “Cost-effective”
  - VOC RACT costs - upwards of \$10,000 per ton
  - What is typical NO<sub>x</sub> control equipment as a minimum
  - Determine point of diminishing return  
(rapidly increasing cost versus reduction)



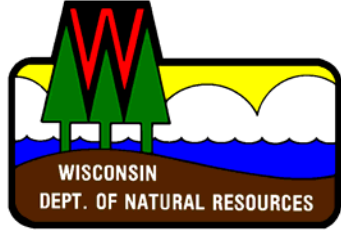


# RACT Control Level

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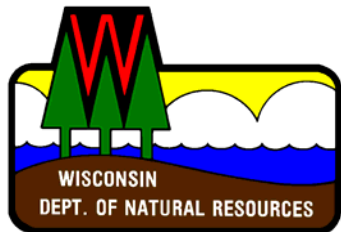
- Initial assessment of NO<sub>x</sub> control options (WDNR, 03/06)

Source Category	Control Level	Cost Effectiveness (\$/ton NO <sub>x</sub> )
Coal Boilers (> 250 mmbtu/hr)	80 - 90% Selective catalytic reduction	1,600 - 4,000
Coal Boilers (< 250 mmbtu/hr)	40 – 50% Selective non-catalytic reduction	1,500 – 5,000
Other Source Categories	30 - 50% Low NO <sub>x</sub> burners or mod.	500 - 2,500



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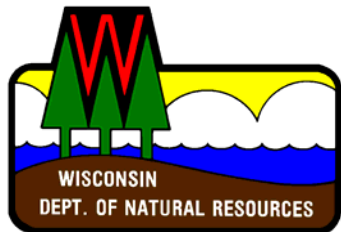
## *5. Extension of the Attainment Date*



# Extension of Attainment Date

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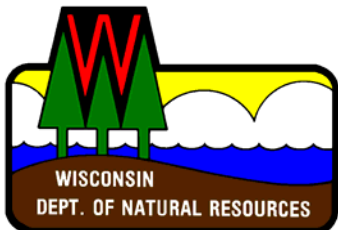
- ◆ Any date beyond the 2009 ozone season.
- ◆ Moderate
  - Moderate to Serious designation
  - Major source 100 → 50 TPY.
- ◆ Basic
  - Basic → Basic: (date prior to 2014)
  - RACT applies at 100 TPY



## Extension of Attainment Date

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- ◆ RACT still applies on the same timeframe (2009).
- ◆ RACM requirement: e.g. 2009 → 2012
  - A number of sources potentially affected by RACM would likely be subject to RACT on the same initial timeline (2009).
  - Remaining RACM sources by 2012.

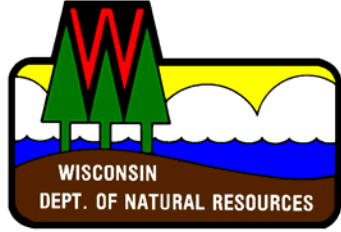


# Extension of Attainment Date

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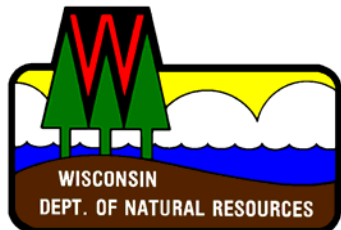
- ◆ Initial identification of additional sources subject to RACT with a 50 TPY threshold:

Source Category	Moderate Area	
	No. of Units	Annual NOx (tons)
EGU Coal Boilers		
ICI Boilers	14	36
EGU Turbines		
Lime Kilns		
Asphalt Plants		
Furnaces	5	43
Process Heating	6	36
Reciprocating Engines	12	98
<b>Total</b>	<b>37</b>	<b>213</b>



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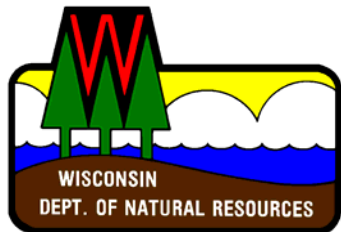
## *6. Specific Questions for Comment*



## Specific Questions for Comment

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- ◆ Are proposed emission limits technically feasible and cost-effective?
- ◆ Can control equipment needed to meet emission limitations be installed by the 2009 ozone season?
- ◆ Should RACT sources be allowed to trade or average? If so what level of trading is appropriate?
- ◆ Should a provision for a case-by-case RACT determination be made available as an alternative to the categorical emission limits?

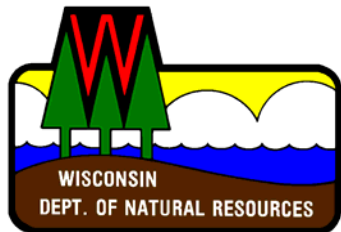


## Specific Questions for Comment

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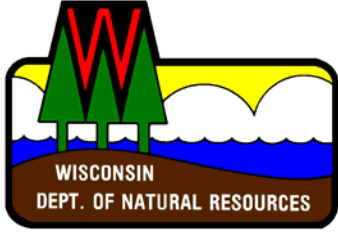
- ◆ Are there other actions or source categories that should be considered under a stationary source RACT program?
- ◆ Should RACT and RACM be addressed at the same time for RACT affected sources?
- ◆ What factors need to be considered in delaying the attainment date.





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## *7. Next Steps in the RACT Rule Development*



## Next Steps

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- ◆ Stakeholders provide comment to specific questions.
- ◆ Review technical data and information used for determining RACT.
  - Identification of Major sources
  - RACT control level and Requirements
- ◆ Implementation and compliance issues

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